

IEEE P802.3 (IEEE 802.3bx) Revision to IEEE Std 802.3-2012 Initial Sponsor ballot comments

Cl 00 SC 0 P L # i-55  
 Anslow, Peter Ciena Corporation

Comment Type E Comment Status A

Now that IEEE Std 802.3bm-2015 has been published, the changes made during the publication process should be incorporated into the draft.

SuggestedRemedy

Incorporate the changes made during the publication process of IEEE Std 802.3bm-2015 into the draft.

Response Response Status C

ACCEPT.

Cl 00 SC 0 P L # i-18  
 RAN, ADEE Intel Corporation

Comment Type G Comment Status R

In the 2012 edition and in past projects, annex top-level bookmarks included the title, similar to the clauses. In this project, only the annex label is included - the title is a second-level bookmark. This can make life more difficult for readers.

SuggestedRemedy

Change whatever is needed so that annex top-level bookmarks include the title.

Response Response Status C

REJECT.

Inclusion of annex titles in the top-level bookmarks requires manual editing of the PDF files. Given the number of annexes in the draft, this process is onerous and will be deferred to final preparation for publication.

Cl 00 SC 0 P L # i-54  
 Anslow, Peter Ciena Corporation

Comment Type E Comment Status A

The draft is not consistent in its use of hyphens associated with AC and DC. There are:  
 33 instances of "AC-coupled" (3 of which are "ac-coupled")  
 44 instances of "AC-coupling"  
 4 instances of "DC-blocking"  
 5 instances of "DC-referenced"  
 2 instances of "dc-balanced"  
 25 instances of "AC coupled" (2 of which are "ac coupled")  
 49 instances of "AC coupling" (1 of which is "ac coupling")  
 1 instance of "DC coupled"  
 5 instances of "DC blocking"  
 3 instances of "DC balanced"

SuggestedRemedy

Change all instances to "AC-coupled", "AC-coupling", "DC-blocking", "DC-referenced", or "DC-balanced" as appropriate.

Response Response Status C

ACCEPT.

Cl 00 SC 0 P L # i-75  
 Anslow, Peter Ciena Corporation

Comment Type E Comment Status A

The draft is almost consistent in its use of "interpacket gap" rather than "inter-packet gap". There are 70 instances of "interpacket gap" and 4 instances of "inter-packet gap". These are in 92.1, 93.1, 94.1, and 95.1.1.  
 Note- the instance in 95.1.1 will be changed when the changes made during the publication of 802.3bm are applied.

SuggestedRemedy

Change "inter-packet gap" to "interpacket gap" in 92.1, 93.1, and 94.1.

Response Response Status C

ACCEPT.

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CI 00 SC 0 P L # i-97  
Perry, Lisa

Comment Type GR Comment Status A  
[Entering this comment on behalf of Angela Thomas]  
All references to "Company Identifier" should be replaced with "Company ID" throughout the document.

SuggestedRemedy

Response Response Status C  
ACCEPT.

CI 00 SC 0 P 0 L 0 # i-100  
Turner, Michelle

Comment Type E Comment Status A  
This draft meets all editorial requirements.

SuggestedRemedy

Response Response Status C  
ACCEPT.

Thank you.

CI 00 SC 0 P 233 L 29 # i-43  
Anslow, Peter Ciena Corporation

Comment Type E Comment Status A  
The draft is almost consistent in its use of "signaling" rather than "signalling". There are 707 instances of "signaling" and 6 instances of "signalling". These are in 45.2.5.8.2 (2 instances), 55.3.5.3 (2 instances), 55.4.5.4, and 94.4.3.

SuggestedRemedy  
Change all 6 instances to "signaling"

Response Response Status C  
ACCEPT.

CI 00 SC 0 P 89 L 19 # i-52  
Anslow, Peter Ciena Corporation

Comment Type E Comment Status A  
The PICS proforma tables in the draft are inconsistent regarding the text in the "Implementation identification" section. There are:  
69 instances of "Contact point for enquiries about the PICS"  
14 instances of "Contact point for queries about the PICS"  
1 instance of "Contact point for inquiries about the PICS"  
Despite being the most numerous, the word "enquiries" is not preferred by the IEEE and the publication editor has proposed to change to "inquiries" in the IEEE 802.3bm-2015 amendment.

SuggestedRemedy  
Change all instances to "inquiries"

Response Response Status C  
ACCEPT.

CI 01 SC 1.3 P 66 L 19 # i-107  
Thaler, Patricia Broadcom Corporation

Comment Type E Comment Status A  
IEEE 802.3 revision has not updated the IEEE 802.1Q reference to the new title.

SuggestedRemedy  
Change title for IEEE 802.1Q to "Standard for Local and Metropolitan Area Networks -- Bridges and Bridged Networks".

Response Response Status C  
ACCEPT.

CI 01 SC 1.3 P 66 L 5 # i-76  
Hiertz, Guido Ericsson AB

Comment Type G Comment Status R  
It would be wise to add a reference regarding the use of units (b, B, V, s etc.) to this standard.

SuggestedRemedy  
Add "IEEE Std 260.1(TM)-2004, IEEE Standard Letter Symbols for Units of Measurement (SI Units, Customary Inch-Pound Units, and Certain Other Units)" to the reference section.

Response Response Status C  
REJECT.

It is not necessary to include IEEE Std 260.1-2014 in the list of references because it is not required for the implementation of the standard.

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Cl 01 SC 1.4.102 P75 L 43 # i-33  
 Marris, Arthur Cadence Design Syst

Comment Type T Comment Status A  
 No references to Clauses 37 and 73.

SuggestedRemedy

Change to:  
 1.4.102 Auto-Negotiation: The algorithm that allows two devices at either end of a link segment to negotiate common data service functions. (See IEEE Std 802.3, Clause 28, Clause 37 and Clause 73.)

Response Response Status C  
 ACCEPT IN PRINCIPLE.

(use Oxford commas)

Change to:  
 1.4.102 Auto-Negotiation: The algorithm that allows two devices at either end of a link segment to negotiate common data service functions. (See IEEE Std 802.3, Clause 28, Clause 37, and Clause 73.)

Cl 01 SC 1.4.117 P76 L 39 # i-19  
 RAN, ADEE Intel Corporation

Comment Type T Comment Status A  
 In the definition of bit time (BT), the example states the bit\_rate\_ in 100BASE-T, but it is actually the bit time.

SuggestedRemedy

Change "bit rate" to "bit time".

Response Response Status C  
 ACCEPT IN PRINCIPLE.

Change only the second occurrence of "bit rate" to "bit time"

Cl 01 SC 1.4.131 P77 L 51 # i-57  
 Anslow, Peter Ciena Corporation

Comment Type E Comment Status A  
 The IEEE style manual says that 4 digit numbers should not include a thousands separator (which would be space) unless in a column with 5 digit numbers.

SuggestedRemedy

Change "1,000" to "1000"

Response Response Status C  
 ACCEPT.

Cl 01 SC 1.4.394 P95 L 48 # i-79  
 Hiertz, Guido Ericsson AB

Comment Type E Comment Status A  
 Wrong use of units.

SuggestedRemedy

Replace "eight nanoseconds" with "8 ns"

Response Response Status C  
 ACCEPT.

Cl 01 SC 1.4.397 P96 L 3 # i-77  
 Hiertz, Guido Ericsson AB

Comment Type E Comment Status A  
 Wrong use of units.

SuggestedRemedy

Replace "125-microsecond" with "125 μs"

Response Response Status C  
 ACCEPT IN PRINCIPLE.

Replace "125-microsecond " with "125 us" where "u" is the Greek letter mu.

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Cl 01 SC 1.4.79 P 51 L 12 # i-85  
Booth, Brad Microsoft Corporation

Comment Type GR Comment Status A

\*\*\* Comment submitted with the file 85523100003-Interface Names rev 3.pptx attached \*\*\*

There is an inconsistency between the definitions in 1.4 and the term used in the standard. For example, 1.4.82 defines CGMII as 100 Gigabit Media Independent Interface and 1.4.79 as 40 Gigabit Media Independent Interface, but in Figure 81-1 the figure shows them as 100 Gb/s Media Independent Interface and 40 Gb/s Media Independent Interface, respectively. The title of Clause 81 also expands on this issue by stating, "Media Independent Interface for 40 Gb/s and 100 Gb/s operation." Definition 1.4.267 defines Media Independent Interface (MII) as being in Clause 22.

The suggested remedy creates consistency between the definitions in Clause 1 and the terms used throughout the standard. It also creates consistency with the clause headings.

SuggestedRemedy

Change the title of Clause 81 to read:  
Reconciliation Sublayer (RS), 40 Gigabit Media Independent Interface (XLGMII) and 100 Gigabit Media Independent Interface (CGMII)

Search and replace instances of:  
100 Gb/s Media with 100 Gigabit Media  
100 Gb/s Attachment with 100 Gigabit Attachment  
40 Gb/s Media with 40 Gigabit Media  
40 Gb/s Attachment with 40 Gigabit Attachment  
100 Gb/s Four-Lane Attachment Unit Interface with 100 Gigabit Attachment Unit Interface Over Four-Lanes  
100 Gb/s Ten-Lane Attachment Unit Interface with 100 Gigabit Attachment Unit Interface Over Ten-Lanes

See attached document for list of changes required.

Response Response Status C

ACCEPT IN PRINCIPLE.

Implement option 2 from  
<[http://www.ieee802.org/3/maint/public/booth\\_1\\_0515.pdf](http://www.ieee802.org/3/maint/public/booth_1_0515.pdf)>

Change "40 Gigabit" to "40 Gb/s" in the following instances:  
Section 1: 1.1.3.2 items i), j), k), 1.4.78, 1.4.79, and 1.4.80, 1.5 XLAUI, XLGMII, XLPPi abbreviations  
Section 5: Figure 69-2, 69.1.2 item f).  
Section 6: 80.1.3 item c), e).

Change "100 Gigabit" to "100 Gb/s" in the following instances:  
Section 1, 1.1.3.2 items l), m), n), 1.4.81, 1.4.82, 1.4.83, 1.5 CAUI-n, CGMII, and CPPI abbreviations

Section 5: Figure 69-2, 69.1.2 items f) and g).  
Section 6: 80.1.3 item c), d), e), f).

In 80.1.4, change "40 Gigabit and 100 Gigabit Physical Layers" to "40 Gb/s and 100 Gb/s Physical Layers".

Cl 04 SC 4.4.2 P 151 L 12 # i-78  
Hiertz, Guido Ericsson AB

Comment Type E Comment Status R

The table heading indicates "Mb/s" and "Gb/s". The cells, however, contain measures of "bits". This seems to be inconsistent.

SuggestedRemedy

Replace all occurrences of "bits" with "b".

Response Response Status C

REJECT.

Since there is no precedence for using "b" in place of "bits" in Section 1, this change is likely to make the table more difficult to understand than the current one.

Cl 22 SC 22.1 P 45 L 40 # i-89  
Grow, Robert RMG Consulting

Comment Type TR Comment Status A

\*\*\* Comment submitted with the file 85554000003-Common Changes r5.docx attached \*\*\*

The statement that the MII is for PHYs of 10 Mb/s and above is clearly wrong. The MII is only specified for 10 Mb/s and 100 Mb/s, and the MII interface is also only applicable to some of the 1000 Mb/s PHYs that have been specified.

SuggestedRemedy

The attached file proposes changes to Clauses 22, 34 and 35 to fix this for both existing PHYs and proposed PHYs. If accepted, the PICS for Clause 22 will also need to be revised to provide optionality similar to that in Clause 35.

Response Response Status C

ACCEPT IN PRINCIPLE.

Implement the changes described in <[http://www.ieee802.org/3/maint/public/grow\\_1a\\_0515.pdf](http://www.ieee802.org/3/maint/public/grow_1a_0515.pdf)>.

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Cl 28 SC 28.5.4.10 P 329 L 31 # i-98

Perry, Lisa

Comment Type GR Comment Status A

[Entering this comment on behalf of Angela Thomas]  
The RAC thanks the WG for its efforts to update the standard to use current RA terminology and to include the CID where appropriate. It looks like the referenced PICs item was not updated to be consistent with the updates made to Annex 28.C.6.

SuggestedRemedy

Please update the Value/Comment text to state OUI or CID (multiple occurrences).

Response Response Status C

ACCEPT.

The Value/Comment text will become the following.

"Followed by 4 Unformatted Pages. First Unformatted Page contains most significant 11 bits of OUI or CID (bits 23:13) with MSB in U10;  
Second Unformatted Page contains next most significant 11 bits of OUI or CID (bits 12:2), with MSB in U10;  
Third Unformatted Page contains the least significant 2 bits of OUI or CID (bits 1:0) with MSB in U10, bits U8:0 contains user-defined code specific to OUI or CID;  
Fourth Unformatted Page contains user-defined code specific to OUI or CID"

Cl 30 SC 30.1 P 340 L 9 # i-87

Marris, Arthur

Cadence Design Syst

Comment Type ER Comment Status A

Mix of spelling between "behaviors" and "behaviours" in Clause 30.

SuggestedRemedy

Use "behaviours" so change "behaviors" to "behaviours" throughout Clause 30.

Response Response Status C

ACCEPT IN PRINCIPLE.

See <[http://www.ieee802.org/3/WG\\_tools/editorial/requirements/words.html](http://www.ieee802.org/3/WG_tools/editorial/requirements/words.html)>

"Use of the spelling 'behaviour'

In IEEE Std 802.3 the spelling 'behaviour' is used throughout MIB clauses and their associated Annexes, and in any references to the behaviours defined there. Since ISO/IEC 10165-4:1991 is [an] ISO standard it uses the spelling 'behaviour' and to meet this externally defined template we need to use the same spelling. In all other instances the spelling 'behavior' is used."

Per this guideline, Clause 30 will be changed to use "behaviour" throughout. Check the remainder of the draft and for this convention.

Cl 30 SC 30.3.2 P 387 L 29 # i-2

Hajduczenia, Marek

Bright House Network

Comment Type T Comment Status A

Title of subclause 30.3.2 seems odd: "PHY devicePHY device managed object class" - it seems that "PHY device" is repeated unnecessarily.  
As far as I can trace, it is also present even in 802.3-2000.

SuggestedRemedy

Remove one instance of "PHY device" from title of 30.3.2 - it is a "PHY device managed object class"

Response Response Status C

ACCEPT.

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Cl 30 SC 30.3.6.1.16 P 405 L 26 # i-99

Perry, Lisa

Comment Type GR Comment Status A

[Entering this comment on behalf of Angela Thomas]

Under "BEHAVIOUR DEFINED AS", the first sentence of the text reads: "The value of the OUI variable in the Vendor Identifier field (see Table 57-11) of the most recently received Information OAMPDU". The RAC is unable to determine if the BEHAVIOUR should include OUI or a CID. It is possible that references between Clause 30 and Clause 57 specifications have become disconnected.

a) We cannot find a use of "Vendor Identifier field" in Section 5. Table 57-11 is entitled "Vendor Specific Information field", and has one entry, an unstructured 32-bit identifier that may be used to differentiate a vendor's product models/versions. There is no indication that an OUI is part of that field. Rather, Table 57-10 is OUI field, which may include either an OUI or CID.

b) The attribute referencing Table 57-10 is 30.3.6.1.12. But, rather than describing anything related to OUI, it refers to the Revision field of the Local Information TLV, which seems to not be in Table 57-10 but is in the Table in section 57.7.3.4.

SuggestedRemedy

If the correct reference for this attribute is Table-10, OUI field, then the attribute should indicate OUI or CID.

Though not a RAC Mandatory Coordination issue, we recommend that the WG review attributes supporting Clause 57 to verify that correct field names are used, and that Table references are correct in pointing at Clause 57 content. (It is possible that FrameMaker cross references were not used in Clause 30 to ease validation of Clause 30 specifications with MIB tools. If so, both Table and sub clause numbers could have drifted apart as additions have been made to Clause 57.)

Response Response Status C

ACCEPT IN PRINCIPLE.

30.3.6.1.12 aOAMLocalRevision

Change text under "BEHAVIOR DEFINED AS:" to the following.

"The value of the Revision field (see 57.5.2.1) in the Local Information TLV of the most recently transmitted Information OAMPDU.;"

30.3.6.1.13 aOAMRemoteRevision

Change the first paragraph under "BEHAVIOR DEFINED AS:" to the following.

"The value of the Revision field (see 57.5.2.1) in the Local Information TLV of the most recently received Information OAMPDU."

30.3.6.1.16 aOAMRemoteVendorOUI

Change the first paragraph under "BEHAVIOR DEFINED AS:" to the following.

"The value of the OUI/CID field (see Table 57-10) of the most recently received Information OAMPDU."

In 30.3.6.1, there are a number of references to the "Local Information TLV" that refer to 57.5.2.2. 57.5.2.2 defines the "Remote Information TLV" and all references to the "Local Information TLV" will change to 57.5.2.1.

Change title of Table 57-10 to "OUI/CID field".

Cl 30 SC 30.6.1.1.5 P 445 L 3 # i-34

Marris, Arthur Cadence Design Syst

Comment Type E Comment Status A

Extra space

SuggestedRemedy

Remove extra space before " Full duplex 1000BASE-X as specified in Clause 31 and Clause 36"

Response Response Status C

ACCEPT.

Cl 31B SC 31B.3.4.2 P 740 L 31 # i-28

RAN, ADEE Intel Corporation

Comment Type E Comment Status A

"pause quanta" (with a space) is used in the definition of n\_quanta\_tx, but most of the occurrences in the standard use "pause\_quantum" instead. Consistent use of the underscore version is suggested.

A few other occurrences with a space should be corrected as well.

SuggestedRemedy

Change "pause quanta" to "pause\_quantum" here, and in the following additional places:

1. 71.4, page 446 line 11
2. 74.6, page 546 line 15, line 18 and line 21
3. 74.11.3, page 561 line 7, 8 and 10
4. 83.7.3, page 198 line 37, line 40.

Response Response Status C

ACCEPT.

Contrary to the comment, "pause\_quantum" is used in the definition of n\_quanta\_tx. The subclause, page, and line numbers refer to the definition of n\_quanta\_rx where "pause quanta" will be changed to "pause\_quantum".

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CI 31B SC 31B.3.7 P 742 L 40 # i-17  
 RAN, ADEE Intel Corporation

Comment Type T Comment Status A  
 "Pause\_quantum bit times" used in several instances is a dimension mismatch.  
 Pause\_quantum is defined earlier as a period of time, rather than a pure number, and bit time has dimension of time too.

SuggestedRemedy  
 Change "more than pause\_quantum bit times" to "one pause\_quantum".  
 Change "(pause\_quantum + 64) bit times" in line 43 to "one pause\_quantum + 64 BT".  
 Change "pause\_quantum bit times" to "pause\_quanta" on page 742 line 45, line 49, and line 51, and on page 743 line 2, and line 5.  
 Apply similar changes to the corresponding PICS.

Response Response Status C  
 ACCEPT IN PRINCIPLE.  
 Implement the suggested remedy with the exception of the first change. Instead, change "pause\_quantum bit times" to "one pause\_quantum" at p742/140.

CI 44 SC 44.1.3 P 38 L 38 # i-31  
 Marris, Arthur Cadence Design Syst

Comment Type TR Comment Status A  
 10G Ethernet is full duplex only so why describe the MAC as "the IEEE 802.3 (CSMA/CD) MAC"?

SuggestedRemedy  
 Change: "the IEEE 802.3 (CSMA/CD) MAC"  
 To: "the IEEE 802.3 MAC"  
 also scrub the rest of the document and either delete "CSMA/CD" or replace with the word "Ethernet" when the standard is concerned with 10G speeds and above.

Response Response Status C  
 ACCEPT IN PRINCIPLE.  
 For all layer diagrams in sections 4, 5, and 6 change the heading of the Ethernet stack from: "LAN CSMA/CD LAYERS" to: "ETHERNET LAYERS".  
 Where the figure title contains "the IEEE 802.3 CSMA/CD LAN model" change this to "the IEEE 802.3 Ethernet model"  
 In 44.1.3, change "the IEEE 802.3 (CSMA/CD) MAC" to: "the IEEE 802.3 MAC" (2 instances).  
 In 46.1 and 81.1, change "between CSMA/CD media access controllers and" to: "between Ethernet media access controllers and"  
 In 55.1, change "the 10 Gigabit Ethernet family of high-speed CSMA/CD network specifications" to "the 10 Gigabit Ethernet family of high-speed network specifications"  
 In 55.1.2 and 83A.1.1 a), change: "the IEEE 802.3 CSMA/CD LAN model" to: "the IEEE 802.3 Ethernet model"  
 In 55.1.2, change "the IEEE 802.3 (CSMA/CD) MAC" to: "the IEEE 802.3 MAC"

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CI 45 SC 45.2.1 P 49 L 19 # i-49  
 Anslow, Peter Ciena Corporation

Comment Type E Comment Status A

In Table 45-3, some entries in the "Register name" column end in "register". This is incorrect as it would result in having to refer to the "PMA/PMD extended ability register register"

SuggestedRemedy

Remove the word "register" or "registers" from the end of any entries in the "Register name" column of Table 45-3

Response Response Status C

ACCEPT.

CI 45 SC 45.2.1.1 P 53 L 37 # i-48  
 Anslow, Peter Ciena Corporation

Comment Type E Comment Status A

In some tables in Clause 45, in the description column there are entries that look like those for bits 1.0.13, 1.0.6, and 1.0.5:2. In some cases, the headings of the columns of bit values are in underline font, but some are not. The meaning of the underline is not clear. For bit 1.0.6, the headings are only partly underlined. The use of underline font here makes showing changes in amendment text difficult.

SuggestedRemedy

Either remove the underlining (preferred option) or make the use of underline font consistent).

Response Response Status C

ACCEPT IN PRINCIPLE.

Remove the underlining.

CI 45 SC 45.2.1.1.3 P 54 L 46 # i-44  
 Anslow, Peter Ciena Corporation

Comment Type E Comment Status A

Space missing in title of 45.2.1.1.3

SuggestedRemedy

Change:  
 "Speed selection (1.0.13,1.0.6, 1.0.5:2)" to:  
 "Speed selection (1.0.13, 1.0.6, 1.0.5:2)"

Response Response Status C

ACCEPT.

See also comment i-29.

Comment i-29 points out the same issue but the proposed change from this comment was accepted.

CI 45 SC 45.2.1.1.3 P 54 L 46 # i-29  
 Marris, Arthur Cadence Design Syst

Comment Type E Comment Status A

Missing space

SuggestedRemedy

Change: 45.2.1.1.3 Speed selection (1.0.13,1.0.6, 1.0.5:2)  
 To: 45.2.1.1.3 Speed selection (1.0.13, 1.0.6, 1.0.5:2)

Response Response Status C

ACCEPT IN PRINCIPLE.

See comment i-44

The response to comment i-44 is copied below for the convenience of the reader.

Change:  
 "Speed selection (1.0.13,1.0.6, 1.0.5:2)" to:  
 "Speed selection (1.0.13, 1.0.6, 1.0.5:2)"



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CI 45 SC 45.2.1.10.1 P 70 L 15 # i-32  
Marris, Arthur Cadence Design Syst

Comment Type TR Comment Status A  
Missing definition for bit 1.11.10 40G/100G extended abilities.

SuggestedRemedy  
Add new 45.2.1.10.1 and renumber existing subclauses

45.2.1.10.1 40G/100G extended abilities (1.11.10)  
When read as a one, bit 1.11.10 indicates that the PMA/PMD has 40G/100G abilities listed in register 1.13. When read as a zero, bit 1.11.10 indicates that the PMA/PMD does not have 40G/100G abilities.

Response Response Status C  
ACCEPT IN PRINCIPLE.

Insert new subclause 45.2.1.10.1

45.2.1.10.1 40G/100G extended abilities (1.11.10)  
When read as a one, bit 1.11.10 indicates that the PMA/PMD has 40G/100G extended abilities listed in register 1.13. When read as a zero, bit 1.11.10 indicates that the PMA/PMD does not have 40G/100G extended abilities.

CI 45 SC 45.2.1.101.2 P 136 L 32 # i-35  
Marris, Arthur Cadence Design Syst

Comment Type ER Comment Status A  
"(see 91.5.3.3)" is first mentioned in 45.2.1.101.1 and then unnecessarily repeated in subsequent subclauses.

SuggestedRemedy  
Delete "(see 91.5.3.3)" on lines 32 and 33 on page 136. And on lines 10, 17 and 23 on page 138.

Response Response Status C  
ACCEPT IN PRINCIPLE.

In 45.2.1.101.2, delete "(see 91.5.3.3)" on line 33 as this cross-reference appears twice in the same subclause.

Do not remove any of the other instances.  
In 45.2.1.102.7 (page 138, line 10) the cross-reference is needed to find the threshold that is not to be exceeded.  
In 45.2.1.102.8 and 45.2.1.102.9 (page 138, lines 17 and 23) the cross-references are needed to help understand which of the many FEC decoders in the 802.3 standard have their ability to bypass indication or correction indicated by these bits.

CI 45 SC 45.2.1.102 P 136 L 44 # i-7  
RAN, ADEE Intel Corporation

Comment Type E Comment Status A  
Table 45-80, in row 1, "Name" does not match the title of 45.2.1.102.1 (PCS align status); and in row 2, "Name" does not match the title of 45.2.1.102.2 (RS-FEC align status).

The subclause titles seem more appropriate for re-use in 802.3by (where both the RS-FEC and the PCS are single-lane). Also, "PCS lane alignment status" can be confused with the PCS variable (Table 45-136).

SuggestedRemedy  
Change table "name" fields to match subclause titles:  
In row 1, change name to "PCS align status".  
In row 2, change name to "RS-FEC align status".

Change "PCS lane alignment status" to "PCS align status" in 45.2.1.110 accordingly.

Response Response Status C  
ACCEPT IN PRINCIPLE.

In Table 45-80 row 1, change "PCS lane alignment status" to "PCS align status".  
In Table 45-80 row 2, change "FEC lane alignment status" to "RS-FEC align status".

In 45.2.1.110 (page 140, line 54) change "PCS lane alignment status" to "PCS align status".

In Table 91-3 change "FEC lane alignment status" to "RS-FEC align status"  
In Table 91-4 change "PCS lane alignment status" to "PCS align status".

CI 45 SC 45.2.1.102.3 P 137 L 37 # i-8  
RAN, ADEE Intel Corporation

Comment Type T Comment Status A  
Following the change in the definition of amps\_lock in D2.1 (comment #66 on D2.0), it seems that the text here and in 45.2.1.102.4, 45.2.1.102.5 and 45.2.1.102.6 should change accordingly.

SuggestedRemedy  
Change "FEC lane 3" to "Lane 3 of the PMA service interface", and similarly for lanes 2, 1, and 0.

Response Response Status C  
ACCEPT IN PRINCIPLE.

In 45.2.1.102.3, change "FEC lane 3" to "lane 3 of the PMA service interface" in two places.

Make equivalent changes in 45.2.1.102.4, 45.2.1.102.5 and 45.2.1.102.6

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**Cl 45**    **SC 45.2.1.6**                      **P 59**            **L 12**            # **i-50**  
 Anslow, Peter                                      Ciena Corporation

**Comment Type**    **E**                      **Comment Status**    **A**  
 Register 1.7 is the PMA/PMD control 2 register. However the text in 45.2.1.6 is:  
 "The assignment of bits in the 10G PMA/PMD control 2 register is shown in Table 45-7."  
 which includes a spurious "10G".

**SuggestedRemedy**  
 Remove the "10G"

**Response**                                      **Response Status**    **C**  
 ACCEPT.

**Cl 45**    **SC 45.2.1.6**                      **P 60**            **L 21**            # **i-51**  
 Anslow, Peter                                      Ciena Corporation

**Comment Type**    **E**                      **Comment Status**    **A**  
 Throughout Clause 45, reserved bits are just labelled "reserved". In the row for bits 1.7.5:0  
 there are occurrences of both "reserved" and "reserved for future use".

**SuggestedRemedy**  
 Change the two instances of "reserved for future use" to "reserved"

**Response**                                      **Response Status**    **C**  
 ACCEPT.

**Cl 45**    **SC 45.2.1.65.1**                      **P 111**            **L 29**            # **i-101**  
 McClellan, Brett                                      Marvell Semiconducto

**Comment Type**    **TR**                      **Comment Status**    **A**  
 reference to Table 55-1 should be Table 55-12

**SuggestedRemedy**  
 change Table 55-1 to Table 55-12

**Response**                                      **Response Status**    **C**  
 ACCEPT.

**Cl 45**    **SC 45.2.1.88**                      **P 125**            **L 2**            # **i-47**  
 Anslow, Peter                                      Ciena Corporation

**Comment Type**    **E**                      **Comment Status**    **A**  
 Subclauses 45.2.1.88 and 45.2.1.89 contain no text

**SuggestedRemedy**  
 Add to subclause 45.2.1.88:  
 "The assignment of bits in the 1000BASE-KX control register is shown in Table 45-68."  
 Add to subclause 45.2.1.89:  
 "The assignment of bits in the 1000BASE-KX status register is shown in Table 45-69."

**Response**                                      **Response Status**    **C**  
 ACCEPT.

**Cl 45**    **SC 45.2.1.89**                      **P 126**            **L 6**            # **i-46**  
 Anslow, Peter                                      Ciena Corporation

**Comment Type**    **E**                      **Comment Status**    **A**  
 The rightmost column heading for tables 45-69, 45-204, and 45-209 differ from the rest of  
 the tables in Clause 45 in being labelled "RO" rather than "R/W"

**SuggestedRemedy**  
 Change the rightmost column heading for tables 45-69, 45-204, and 45-209 from "RO" to  
 "R/W"

**Response**                                      **Response Status**    **C**  
 ACCEPT.

**Cl 45**    **SC 45.2.3.1.2**                      **P 177**            **L 50**            # **i-102**  
 McClellan, Brett                                      Marvell Semiconducto

**Comment Type**    **TR**                      **Comment Status**    **A**  
 reference to 55.3.6.3 is incorrect, it should be 55.3.7.3

**SuggestedRemedy**  
 change 55.3.6.3 to 55.3.7.3

**Response**                                      **Response Status**    **C**  
 ACCEPT.

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Cl 45 SC 45.2.3.6 P 182 L 14 # i-45  
 Anslow, Peter Ciena Corporation

Comment Type E Comment Status A  
 Footnote a to Table 45-123 is "aR/W = Read/Write", but the column also includes an "RO"

SuggestedRemedy

Change the footnote to "aRO = Read only, R/W = Read/Write"  
 Check the footnotes to the other tables in Clause 45 so that they reflect the entries in the R/W column.

Response Response Status C  
 ACCEPT.

Cl 45 SC 45.2.5.10 P 234 L 12 # i-56  
 Anslow, Peter Ciena Corporation

Comment Type T Comment Status A  
 Maintenance request [http://www.ieee802.org/3/maint/requests/maint\\_1114.pdf](http://www.ieee802.org/3/maint/requests/maint_1114.pdf) changed bit 5.24.10 to:  

Bit(s)	Name	Description	R/W
5.24.10	Ignored	Value 0 or 1, writes ignored	RO

 with no subclause (expected to be 45.2.5.10.3) explaining the meaning of the bit allocation. The rationale from the maintenance request appears to be that a single device may implement register 5.24 or 4.24 depending on whether it is a DTE XS device or a PHY XS device. Without the text of the maintenance request to refer to, this is difficult to understand.

SuggestedRemedy

Insert a new subclause 45.2.5.10.3 to define this bit:  
 45.2.5.10.3 Ignored  
 So that a single device can implement either register 4.24 or register 5.24, bit 5.24.10 can return either a one or a zero and should be ignored.

Response Response Status C  
 ACCEPT.

Cl 45 SC 45.2.7.13 P 260 L 12 # i-103  
 Mcclellan, Brett Marvell Semiconducto

Comment Type TR Comment Status A  
 28.2.3.4.1 does not describe how EEE is advertised and 55.6.1 is the wrong reference

SuggestedRemedy

line 12 change:"28.2.3.4.1; U3 / 55.6.1; U24"  
 to: "Table 40-4; U3 / 55.6.2; U24"  
 line 16 change:"28.2.3.4.1; U2 / 55.6.1; U23"  
 to: "Table 40-4; U2 / 55.6.2; U23"  
 line 20 change:"28.2.3.4.1; U1 / 55.6.1; U22"  
 to: "Table 40-4; U1 / 55.6.2; U22"  
 page 263 line 8 change:"28.2.3.4.1; U3 / 55.6.1; U24"  
 to: "Table 40-4; U3 / 55.6.2; U24"  
 line 12 change:"28.2.3.4.1; U2 / 55.6.1; U23"  
 to: "Table 40-4; U2 / 55.6.2; U23"  
 line 16 change:"28.2.3.4.1; U1 / 55.6.1; U23"  
 to: "Table 40-4; U1 / 55.6.2; U22"

Response Response Status C  
 ACCEPT IN PRINCIPLE.

[Editor's note: 55.6.2 is "MASTER-SLAVE configuration resolution". We suspect the commenter meant 55.6.1.2 or perhaps even more specifically Table 55-15. In addition, Table 40-4 does not define the U3 and U1 bits (it points to 45.2.7.13 creating a circular reference).]

In the first paragraph of 45.2.7.13, change "10GBASE-T Extended Next Page as defined in 55.6.1" to "10GBASE-T and 1000BASE-T technology message code as defined in 28C.11" to be consistent with other references in the sentence.

In the second paragraph of 45.2.7.13, add a description of the mapping between the register bits and the 10GBASE-T and 1000BASE-T technology message code. The changed paragraph will be the following.  
 "Bits 10:0 of register 7.60 map to bits U10 through U0 respectively of the Unformatted Next Page following a EEE technology message code as defined in 28C.12. Bits 15:0 of register 7.60 map to bits U15 through U0 respectively of the unformatted code field of Message Next Page with EEE technology message code as defined in 73A.4. Bits 3:1 of register 7.60 also map to bits U24 through U22 respectively of the 10GBASE-T and 1000BASE-T technology message code as defined in 28C.11. Devices using Clause 28 auto-negotiation may ignore bits defined for Clause 73 autonegotiation, and devices using Clause 73 auto-negotiation may ignore bits defined for Clause 28 autonegotiation."

In Table 45-210, change references to 55.6.1 to 28.2.3.4.2 in order to be consistent with other references in the table.

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Cl 48 SC 48.2.5 P 264 L 40 # i-105  
 McClellan, Brett Marvell Semiconducto

Comment Type T Comment Status A

Using the Receive local fault bit (4.8.10) to report the alignment status is inconsistent with the use of the terms 'transmit' and receive in Clause 45.2.4 ( PHY XS registers ). In subclause 45.2.4.8 the term 'transmit' is applied in the direction toward the PHY, and 'receive' is applied in the direction toward the RS. Lane alignment is performed in the transmit path of the PHY XS.

SuggestedRemedy

Change "4.8.10 Receive local fault" to "4.8.11 Transmit local fault".

Response Response Status C

ACCEPT IN PRINCIPLE.

[Editor's note: Page should be 364]

There are two transmitters and two receivers associated with the "XS".

These are:

The PHY XS transmitter (in the transmit direction)

The DTE XS receiver (in the transmit direction)

The DTE XS transmitter (in the receive direction)

The PHY XS receiver (in the receive direction)

Where the "transmit direction" describes data flow from the MAC towards the MDI and the "receive direction" describes data flow from the MDI towards the MAC.

With four associated "fault" bits:

Register	Bit
PHY XS status 2	4.8.11 Transmit fault
PHY XS status 2	4.8.10 Receive fault
DTE XS status 2	5.8.11 Transmit fault
DTE XS status 2	5.8.10 Receive fault

The align\_status that is being reported on page 364, line 40 is for the PHY XS receiver, so bit 4.8.10 is appropriate.

Change the variable name for bit 4.8.10 in 45.2.4.6 from "Receive local fault" to "Receive fault".

Change the variable name for bit 5.8.10 in 45.2.5.6 from "Receive local fault" to "Receive fault".

Cl 49 SC 49.2.13.2 P 390 L 26 # i-20  
 RAN, ADEE Intel Corporation

Comment Type E Comment Status A

In definition of test\_amp, "Boolean variable this is set..." seems incorrect.

SuggestedRemedy

Change "this is" to "that is".

Response Response Status C

ACCEPT IN PRINCIPLE.

[Editor's note: Clause should be 91, Subclause should be 91.5.4.2.1 since this is the only instance of "Boolean variable this is set" in the draft. (Section 6, page 390, line 26).]

In the definition of test\_amp in 91.5.4.2.1, change: "variable this is set" to "variable that is set"

Cl 49 SC 49.2.13.2 P 408 L 32 # i-22  
 RAN, ADEE Intel Corporation

Comment Type T Comment Status A

Definition of signal\_ok uses wrong primitive names, PMA\_UNITDATA.indication(SIGNAL\_OK), and likewise for WIS. This is not the signal indication.

SuggestedRemedy

Change PMA\_UNITDATA.indication(SIGNAL\_OK) to PMA\_SIGNAL.indication(SIGNAL\_OK), and similarly for WIS.

Response Response Status C

ACCEPT.

Cl 49 SC 49.2.8 P 405 L 14 # i-21  
 RAN, ADEE Intel Corporation

Comment Type E Comment Status A

"The optional PRBS9 pattern is defined in 68.6.1" - but 68.6.1 does not define PRBS9 (it only mentions it). The appropriate definition appears in a footnote of table 68-6.

SuggestedRemedy

Change "in 68.6.1" to "in footnote a of Table 68-6". Alternatively, copy the definition from the footnote here instead of referring to it.

Response Response Status C

ACCEPT IN PRINCIPLE.

Change "in 68.6.1" to "in Table 68-6".

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Cl 51 SC 51.2.3 P 466 L 32 # i-26  
 RAN, ADEE Intel Corporation

Comment Type T Comment Status R  
 PMA\_SIGNAL.indication, as defined, does not use  
 PMD\_SIGNAL.indication(SIGNAL\_DETECT) received from the PMD. The PMD in clause  
 72 uses SIGNAL\_DETECT to convey the status of the PMD training, so its value should be  
 propagated over the PMA. Other 10G serial PMDs also provide this signal.

SuggestedRemedy  
 Insert before "to the PMA client."  
 "and the value of PMD\_SIGNAL.indication(SIGNAL\_DETECT) ".

Response Response Status C  
 REJECT.

Refer to the physical instantiation of PMA\_SIGNAL.indication (51.4.1, Figure 51-3). It  
 shows the inputs to the SIL function to be from the RXCRU and the  
 PMD\_SIGNAL.indication primitive. While combination of these inputs is not explicitly  
 defined, one can infer that if SIGNAL\_DETECT=FAIL, then SIGNAL\_OK=FAIL. If  
 SIGNAL\_OK=OK, then SIGNAL\_OK is not necessarily OK (e.g., the RX\_CRU is unable to  
 recover an acceptable clock from the input data).

The use of SIGNAL\_DETECT by Clause 72 is not an exception to this expected usage.  
 Prior to the completion of transmitter training, SIGNAL\_DETECT=FAIL to force  
 SIGNAL\_OK=FAIL to inhibit the operation of the PCS receive function. Upon the  
 completion of training, SIGNAL\_DETECT=OK but SIGNAL\_OK is not necessarily OK if the  
 received data is not of sufficient quality.

The suggested remedy would change the text to read that either a) SIGNAL\_OK is set to  
 equal SIGNAL\_DETECT which would change the intended operation or b) that  
 SIGNAL\_OK is some unspecified logical combination of SIGNAL\_DETECT and other  
 inputs which is already covered elsewhere in the clause.

Therefore, the suggested change will not be made to the draft.

Cl 55 SC 55.3.6 P 641 L 27 # i-104  
 Mcclellan, Brett Marvell Semiconducto

Comment Type TR Comment Status A  
 E' entrance to TX\_E should have been deleted by the editor between draft 2.1 and 2.2 of  
 802.3az.

SuggestedRemedy  
 delete 'E' from the entrance of TX\_E

Response Response Status C  
 ACCEPT IN PRINCIPLE.

The PCS 64B/65B Transmit state diagram part b) in P802.3az D2.1 had a TX\_WN state  
 with a transition to "E" which was at the top of the "TX\_E" block.  
 The response to comment #242 against P802.3az D2.1 included "Delete the TX\_WE state  
 and all transitions to and from it." This removed the only instance of a transition to "E" so  
 the current diagrams in Figures 55-16 and 55-17 have no such transition.

Remove the "E" and downward arrow above the "TX\_E" block in Figure 55-16.

Cl 55 SC 55.3.6.2.3 P 635 L 46 # i-86  
 Slavick, Jeff Avago Technologies

Comment Type T Comment Status R  
 In Figure 55-15 125us\_timer\_done and 125us\_timer\_not\_done are used but never defined.

SuggestedRemedy  
 Add the following to 125\_ustimer definition:

Values: The condition 125us\_timer\_done becomes true upon timer expiration.

Additionally change 125us\_timer\_not\_done to !125us\_timer\_done in Figure 55-15

Response Response Status C  
 REJECT.

125us\_timer\_done and 125us\_timer\_not\_done are defined by the reference to 14.2.3.2 at  
 the beginning of 55.6.2.3:  
 "State diagram timers follow the conventions described in 14.2.3.2."

14.2.3.2 contains:  
 "All timers operate in the same fashion. A timer is reset and starts counting upon entering  
 a state where "start\_x\_timer" is asserted. Time "x" after the timer has been started,  
 "x\_timer\_done" is asserted and remains asserted until the timer is reset. At all other times,  
 "x\_timer\_not\_done" is asserted."

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Cl 55 SC 55.5.2 P 673 L 7 # i-84  
Zimmerman, George Aquantia, and CommS

Comment Type E Comment Status A  
(section 4) - Name of register 1.132 in clause 55 (10GBASE-T Control Register) is incorrect, relative to Clause 45 definition of 1.132 in 45.2.1.65.

SuggestedRemedy  
Change "(10GBASE-T Control Register)" to "(10GBASE-T test mode register)"

Response Response Status C  
ACCEPT.

Cl 56 SC 56.1.3 P 41 L 52 # i-106  
Laubach, Mark Broadcom Corporation

Comment Type E Comment Status A  
"Table 56-2specifies" should a cross reference to Table 56-3 with a space; i.e.: "Table 56-3 specifies"

SuggestedRemedy  
Correct the text per the comment.

Response Response Status C  
ACCEPT.

Cl 62 SC 62.4.4.2 P 272 L 12 # i-58  
Anslow, Peter Ciena Corporation

Comment Type E Comment Status A  
The IEEE style manual says that 4 digit numbers should not include a thousands separator (which would be space) unless in a column with 5 digit numbers.

SuggestedRemedy  
Change "4,096" to "4096"

Response Response Status C  
ACCEPT.

Cl 64 SC 64.4.4.3 P 344 L 8 # i-5  
Hajduczenia, Marek Bright House Network

Comment Type E Comment Status A  
Text size in SM2 through SM5 in Value/Comment column is larger than in SM1, SM7 etc.

SuggestedRemedy  
Align the text size in SM2 through SM5 in Value/Comment column with the remainder of PICS tables

Response Response Status C  
ACCEPT.

Cl 69 SC 69.1.1 P 420 L 12 # i-39  
Marris, Arthur Cadence Design Syst

Comment Type TR Comment Status A  
The second paragraph does not read well and the list of PHY types is cumbersome making it awkward to add new ones for new speeds.

SuggestedRemedy  
Change to:  
Backplane Ethernet supports the IEEE 802.3 full duplex MAC operating at 1000 Mb/s, 10 Gb/s, 40 Gb/s, or 100 Gb/s providing a bit error ratio (BER) better than or equal to 10-12 at the MAC/PLS service interface. The following Physical Layers are supported:  
\* 1000BASE-KX for 1 Gb/s  
\* 10GBASE-KX4 for 10 Gb/s four-lane  
\* 10GBASE-KR for 10 Gb/s single-lane  
\* 40GBASE-KR4 for 40 Gb/s four-lane  
\* 100GBASE-KR4 and 100GBASE-KP4 for 100 Gb/s four-lane

Response Response Status C  
ACCEPT IN PRINCIPLE.

Change the second paragraph to

Backplane Ethernet supports the IEEE 802.3 full duplex MAC operating at 1000 Mb/s, 10 Gb/s, 40 Gb/s, or 100 Gb/s providing a bit error ratio (BER) better than or equal to 10-12 at the MAC/PLS service interface. The following Physical Layers are supported:  
- 1000BASE-KX for 1 Gb/s operation over a single lane  
- 10GBASE-KX4 for 10 Gb/s operation over four lanes  
- 10GBASE-KR for 10 Gb/s operation over a single lane  
- 40GBASE-KR4 for 40 Gb/s operation over four lanes  
- 100GBASE-KR4 and 100GBASE-KP4 for 100 Gb/s operation over four lanes

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Cl 69 SC 69.1.1 P 420 L 8 # i-38  
Marris, Arthur Cadence Design Syst

Comment Type E Comment Status A  
The font size of the first paragraph seems too small

SuggestedRemedy  
Correct font size

Response Response Status C  
ACCEPT.

Also, verify whole Clause 69 for the use of font size 9 rather than correct font size 10

Cl 69 SC 69.1.2 P 422 L 34 # i-40  
Marris, Arthur Cadence Design Syst

Comment Type TR Comment Status R  
"69.1.2 Relationship of Backplane Ethernet to the ISO OSI reference model" has nothing to do with how GMII and XGMII are defined.

So delete "It is important to note that, while this specification defines interfaces in terms of bits, octets, and frames, implementers may choose other data-path widths for implementation convenience. The only exceptions are as follows:" and the list that follows.

SuggestedRemedy  
Delete text from lines 34 to 54 on page 422.

Response Response Status C  
REJECT.

This comment was WITHDRAWN by the commenter.

Cl 71 SC 71.2 P 445 L 1 # i-23  
RAN, ADEE Intel Corporation

Comment Type E Comment Status A  
The EEE service interface primitives are followed by "These messages are defined for the PCS in 48.2.6.1.6." But 48.2.6.1.6 does not define messages - it defines PCS timers. This seems to be an incorrect reference - messages are listed in 48.2.6.1.7.

SuggestedRemedy  
Change "48.2.6.1.6" to "48.2.6.1.7".

Response Response Status C  
ACCEPT.

Cl 72 SC 72.1 P 465 L 25 # i-24  
RAN, ADEE Intel Corporation

Comment Type E Comment Status A  
Clause 74 is labeled "FEC" here, but FEC has become a generic term. Clause 74 is now titled "FEC sublayer for BASE-R PHYs". In recent projects it is often referred to as BASE-R FEC. It would be advisable to make this consistent.

Suggest using the term "BASE-R FEC" consistently when referring specifically to clause 74, and the term "RS-FEC" consistently when referring specifically to clause 91. "FEC" should be used when referring to either one.

SuggestedRemedy  
Change "FEC" to "BASE-R FEC", here and in the following additional places:

- 80.1.4, page 78, line 47 and line 51 (second instance)
- 80.3.1, page 83, line 35
- Figures 80-2 and 80-3 (the sublayer is specifically BASE-R FEC)
- Figure 80-5 "FEC or RS-FEC" block - change to either "FEC" or "BASE-R FEC or RS-FEC"
- 80.3.3.6, page 90 lines 41 and 43
- 80.3.3.6.3, page 91 lines 8 and 9
- Figures 80-6 and 80-7
- 82.1.4, page 130 lines 15, 17
- 82.2.19.2.2, page 152 line 3
- Figure 83-2
- Table 84-1 (change "FEC for BASE-R" to "BASE-R FEC")
- Figure 84-1
- Table 85-1
- Figure 85-1 (and add "optional")

Editorial license should be granted.

Response Response Status C  
ACCEPT IN PRINCIPLE.

This comment affects Section 5 (Clause 72) and Section 6 (other clauses).

The proposed changes are implemented except where the results of the change would be redundant e.g., where it refers to "Clause 74 FEC".

- 72.1, page 465, line 25: CHANGE
- 80.1.4, page 78, line 47 and line 51 (second instance): NO CHANGE, looks ok as is (matches ref to Cl 91)
- 80.3.1, page 83, line 35: NO CHANGE, looks ok as is. BASE-R used one line above
- Figures 80-2 and 80-3 (the sublayer is specifically BASE-R FEC): CHANGE, RS-FEC covered in Fig 80-4
- Figure 80-5 "FEC or RS-FEC" block: CHANGE to "BASE-R FEC or RS-FEC"
- 80.3.3.6, page 90 lines 41 and 43: NO CHANGE, looks ok as is
- 80.3.3.6.3, page 91 lines 8 and 9: NO CHANGE, looks ok as is

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Figures 80-6 and 80-7: CHANGE, RS-FEC covered in Fig 80-8  
 82.1.4, page 130 lines 15, 17: CHANGE, RS-FEC used for the CI 91 case  
 82.2.19.2.2, page 152 line 3: NO CHANGE, looks ok as is  
 Figure 83-2: CHANGE  
 Table 84-1 (change "FEC for BASE-R" to "BASE-R FEC"): CHANGE  
 Figure 84-1: CHANGE  
 Table 85-1: CHANGE  
 Figure 85-1 (and add "optional"): CHANGE

CI 72 SC 72.2 P 466 L 8 # i-25  
 RAN, ADEE Intel Corporation

Comment Type T Comment Status A  
 The EEE service interface primitives are followed by "These messages are defined for the PCS in 49.2.13.2.2." But 49.2.13.2.2 does not define messages - it defines PCS variables. There is no "messages" subclause in clause 49.

SuggestedRemedy  
 Change  
 "These messages are defined for the PCS in 49.2.13.2.2."  
 to  
 "These messages affect the PCS variables as described in 49.2.13.2.2."

Response Response Status C  
 ACCEPT.

CI 73 SC 73.10.1 P 516 L 21 # i-62  
 RAN, ADEE Intel Corporation

Comment Type E Comment Status A  
 List is not uniformly aligned.

SuggestedRemedy  
 Shift the tab location rightward to align the second column uniformly.

Response Response Status C  
 ACCEPT.

CI 73 SC 73.10.1 P 516 L 21 # i-60  
 RAN, ADEE Intel Corporation

Comment Type T Comment Status A  
 Some of the link\_control\_[x] variables are defined with respect to PMA, while others are defined with respect to PMD. All supported PHYs include PMD sublayers, and the architecture diagrams indicate that the AN interfaces these PMDs.

SuggestedRemedy  
 Change "PMA" to "PMD" in variables all, 1GKX, 10GKR, 10GKX4, HCD, notHCD, and PD.

Response Response Status C  
 ACCEPT.

Also see comment i-61.

The response to comment i-61 makes another change to this same text. The proposed change (which was accepted) is copied below for the convenience of the reader.

Change "represents that <x> is the signal source" to "represents <x>" for each <x> in this list.

CI 73 SC 73.10.1 P 516 L 23 # i-61  
 RAN, ADEE Intel Corporation

Comment Type T Comment Status A  
 "represents that the 1000BASE-KX PMA is the signal source" literally means that link\_control\_[1GKX]=true. But it can also be false, in which case 1000BASE-KX PMA is not the signal source, and can also refer to link\_status instead of link\_control.

A simpler and more general phrasing is "represents the 1000BASE-KX PMD" (PMD rather than PMA, as addressed by another comment).

Applies to all other specific PMDs in this list.

SuggestedRemedy  
 Change "represents that <x> is the signal source" to "represents <x>" for each <x> in this list.

Response Response Status C  
 ACCEPT.



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CI 73 SC 73.10.1 P 516 L 42 # i-63  
 RAN, ADEE Intel Corporation

Comment Type T Comment Status A

Parallel detect is only defined for two PMD classes, 1000BASE-KX and 10GBASE-KX4/CX4 (see 73.7.4.1). Only these PMDs should appear in the "PD" list.

SuggestedRemedy

Delete ", 10GBASE-KR PMA, 40GBASE-KR4 PMD, 40GBASE-CR4 PMD, and 100GBASE-CR10 PMD".

Response Response Status C

ACCEPT IN PRINCIPLE.

Change from:

"represents all of the following that are present: 1000BASE-KX PMA, 10GBASE-KX4 PMA or 10GBASE-CX4 PMA, 10GBASE-KR PMA, 40GBASE-KR4 PMD, 40GBASE-CR4 PMD, and 100GBASE-CR10 PMD."

To:

"represents all of the following that are present: 1000BASE-KX PMD and 10GBASE-KX4 (or 10GBASE-CX4) PMD."

Also see comment i-60.

Comment i-60 makes another change to this same text. The proposed change from i-60 (which was accepted) is copied below for the convenience of the reader.

Change "PMA" to "PMD" in variables all, 1GKX, 10GKR, 10GKX4, HCD, notHCD, and PD.

CI 73 SC 73.10.1 P 516 L 43 # i-36  
 Marris, Arthur Cadence Design Syst

Comment Type TR Comment Status A

PD should only be for the 1000BASE-KX PMA and 10GBASE-KX4 PMA as these are the only two PHYs that support parallel detect and should have link\_control\_[PD] <= SCAN\_FOR\_CARRIER set in the Arbitration state diagram of Figure 73-11. It should not be a requirement to "SCAN\_FOR\_CARRIER; connects the PMD receiver to the MDI and isolates the PMD transmitter from the link." for any other PHY type.

SuggestedRemedy

Change to:

PD; represents all of the following that are present: 1000BASE-KX PMA or 10GBASE-KX4 PMA

Response Response Status C

ACCEPT IN PRINCIPLE.

See comment i-63 for resolution.

The response to comment i-63 is copied below for the convenience of the reader.

Change from:

"represents all of the following that are present: 1000BASE-KX PMA, 10GBASE-KX4 PMA or 10GBASE-CX4 PMA, 10GBASE-KR PMA, 40GBASE-KR4 PMD, 40GBASE-CR4 PMD, and 100GBASE-CR10 PMD."

To:

"represents all of the following that are present: 1000BASE-KX PMD and 10GBASE-KX4 (or 10GBASE-CX4) PMD."

CI 73 SC 73.10.1 P 519 L 14 # i-59  
 RAN, ADEE Intel Corporation

Comment Type T Comment Status A

link\_control is actually a set of variables, one for each technology-dependent PMD. In Figure 73-11, these variables are set independently. As indicated by the first paragraph of in 73.10.1, the definition of link\_control should have "\_[x]" appended to the variable name.

Applies to link\_status as well.

SuggestedRemedy

Change "link\_control" to "link\_control\_[x]" (line 14)

Change "link\_status" to "link\_status\_[x]" (line 22)

Response Response Status C

ACCEPT.

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CI 73 SC 73.10.1 P 519 L 21 # i-30  
Marris, Arthur Cadence Design Syst

Comment Type E Comment Status A  
Spelling

SuggestedRemedy

Change: ENABLE; connects the PMD (both transmit and receive) to the MDI.

To: ENABLE; connects the PMD (both transmit and receive) to the MDI.

and run spell check to look for similar typos.

Response Response Status C  
ACCEPT IN PRINCIPLE.

Fix only the typo in the indicated location.

CI 73 SC 73.10.4 P 526 L 1 # i-68  
RAN, ADEE Intel Corporation

Comment Type E Comment Status A  
Superfluous "." at start of heading.

SuggestedRemedy

Delete the initial period.

Response Response Status C  
ACCEPT.

CI 73 SC 73.10.4 P 528 L 18 # i-64  
RAN, ADEE Intel Corporation

Comment Type E Comment Status A  
Superfluous "+" at the end of condition for transition from ABILITY DETECT to LINK STATUS CHECK.

SuggestedRemedy

Delete the last "+".

Response Response Status C  
ACCEPT.

CI 73 SC 73.11.4.4 P 533 L 20 # i-69  
RAN, ADEE Intel Corporation

Comment Type E Comment Status A  
Missing hyphen in "10GBASEKX4" in feature cell

SuggestedRemedy

Change "10GBASEKX4" to "10GBASE-KX4"

Response Response Status C  
ACCEPT.

CI 73 SC 73.7 P 510 L 19 # i-42  
Marris, Arthur Cadence Design Syst

Comment Type T Comment Status A  
The second sentence does not read very well and does not mention the DME receiver.

SuggestedRemedy

Change:

The receive function incorporates a receive switch to control connection to the 1000BASE-KX, 10GBASE-KX4, 10GBASE-KR 40GBASE-KR4, 40GBASE-CR4, 100GBASE-CR10, 100GBASE-KR4, 100GBASE-KP4, or 100GBASE-CR4 PHYs.

To:

"The receive function incorporates a receive switch to control connection of the MDI to the DME page receiver or PHY."

Response Response Status C  
ACCEPT IN PRINCIPLE.

Change:

The receive function incorporates a receive switch to control connection to the 1000BASE-KX, 10GBASE-KX4, 10GBASE-KR 40GBASE-KR4, 40GBASE-CR4, 100GBASE-CR10, 100GBASE-KR4, 100GBASE-KP4, or 100GBASE-CR4 PHYs.

To:

"The receive function incorporates a receive switch to control connection of the DME page receiver or a PHY to the MDI."

IEEE P802.3 (IEEE 802.3bx) Revision to IEEE Std 802.3-2012 Initial Sponsor ballot comments

CI 73 SC 73.7.4 P 510 L 49 # i-65  
 RAN, ADEE Intel Corporation

Comment Type T Comment Status A

The Arbitration function is practically disabled when mr\_autoneg\_enable is set to false. In that case, enabling the desired technology-dependent PHY, as well as selecting the proper FEC mode, should be done in some other way.

SuggestedRemedy

Add after this paragraph: "if mr\_autoneg\_enable is false, enabling the desired technology-dependent PHY is controlled by implementation-dependent means".

Add at the end of 73.6.5: "if mr\_autoneg\_enable is false, the FEC function is controlled by implementation-dependent means". (This may be worded differently if a control variable is added as suggested in another comment).

Response Response Status C

ACCEPT IN PRINCIPLE.

Add the following sentence to the end of the only paragraph in 73.7.4: "If mr\_autoneg\_enable (see 73.10.1) is false, enabling the desired technology-dependent PHY is controlled by implementation-dependent means."

Add the following paragraph at the end of 73.6.5: "If mr\_autoneg\_enable (see 73.10.1) is false, the FEC function is controlled by implementation-dependent means."

CI 73 SC 73.7.4 P 510 L 54 # i-66  
 RAN, ADEE Intel Corporation

Comment Type T Comment Status A

The technology-dependent interface defined in 73.9 does not include enable/disable control. This control is done by the link\_control variables.

SuggestedRemedy

Change "via the Technology-Dependent interface (see 73.9)" to "via the link\_control\_[x] variables".

Response Response Status C

ACCEPT.

CI 73 SC 73.7.7.1.1 P 514 L 22 # i-41  
 Marris, Arthur Cadence Design Syst

Comment Type E Comment Status A

Wrong paragraph type.  
 Change "73.7.7.1.1" to "73.7.7.2"

SuggestedRemedy

Change "73.7.7.1.1" to "73.7.7.2"

Response Response Status C

ACCEPT.

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CI 73 SC 73.8 P 515 L 29 # i-67  
 RAN, ADEE Intel Corporation

Comment Type T Comment Status A

MDIO Registers for BASE-R FEC negotiated (7.48.4) and Negotiated Port Type (7.48.1 thru 7.48.11) are defined in clause 45, but not listed in the register mapping table.

It seems that negotiated Port Type should be mapped to the variable vector link\_control.

For BASE-R FEC negotiated, there is no variable definition in clause 73. For good order, it is worthwhile to define a variable and link the function in 73.6.5 with an MDIO register.

Note that P802.3by is about to add new FEC bits to AN, and having separate variables would help clarify the relationship between AN and MDIO. A part of this comment may also be implemented as part of 802.3by, but is included here since it is related to existing AN functionality.

SuggestedRemedy

Append rows to table 73-6:  
 link\_control\_[x] | {7.48.11:8, 7.48.6:5, 7.48.3:1} Negotiated Port Type  
 an\_baser\_fec\_control | 7.48.4 BASE-R FEC negotiated

Add a variable definition an\_baser\_fec\_control in 73.10.1 with an appropriate description and specify its setting in 73.6.5, with editorial license.

Response Response Status C

ACCEPT IN PRINCIPLE.

Add the following paragraph to the end of 73.6.5.

"The variable an\_baser\_fec\_control indicates that BASE-R FEC operation has been negotiated. If the value is false, then BASE-R FEC has not been negotiated. If the value is true, then BASE-R FEC has been negotiated. The mapping of this variable to an MDIO bit is defined in Table 73-6."

Change the last sentence of 73.8 from:

"Table 73-6 provides the mapping of state diagram variables to management registers" to:  
 "Table 73-6 provides the mapping of Backplane Ethernet Auto-Negotiation variables to management registers."

Change the title of Table 73-6 from:

"State diagram variable to Backplane Ethernet Auto-Negotiation register mapping" to:  
 "Backplane Ethernet Auto-Negotiation variable to MDIO register mapping"

Change the heading of the first column of Table 73-6 from "State diagram variable" to "Variable".

Add the following rows to Table 73-6:

link\_control\_[x] | {7.48.11:8, 7.48.6:5, 7.48.3:1} Negotiated Port Type  
 an\_baser\_fec\_control | 7.48.4 BASE-R FEC negotiated

CI 74 SC 74.2 P 537 L 19 # i-37  
 Marris, Arthur Cadence Design Syst

Comment Type T Comment Status A

Delete "74.2 Objectives" as has been done for 80.1.2. It is cumbersome keeping this list up-to-date whenever a new speed or PHY type is added.

SuggestedRemedy

Change to:  
 74.2 Objectives

NOTE--The contents of this subclause have been deleted.

Response Response Status C

ACCEPT.

CI 76 SC 76.3.2.5.2 P 622 L 54 # i-1  
 Hajduczenia, Marek Bright House Network

Comment Type TR Comment Status A

Definition of SH\_DATA and SH\_CTRL is incorrect. They both contain exactly the same description and their binary representation is the same (10), which is incorrect. Based on the historic search through revisions, it seems that Maintenance Request 1218 ([http://www.ieee802.org/3/maint/requests/maint\\_1218.pdf](http://www.ieee802.org/3/maint/requests/maint_1218.pdf)) has not been implemented correctly in 802.3-2012 in the first version of the draft and then it was not captured during ballot.

SuggestedRemedy

Use the following definitions for SH\_DATA and SH\_CTRL. Make sure that links are live.

SH\_DATA

Type: 2-bit unsigned  
 The value of synchronization header indicating a that the given 66-bit block is a data block, as defined in 49.2.4.3.  
 Value: 0x02 (binary representation 10)

SH\_CTRL

Type: 2-bit unsigned  
 The value of synchronization header indicating that the given 66-bit block is a control block, as defined in 49.2.4.3.  
 Value: 0x01 (binary representation 01)

Response Response Status C

ACCEPT.

IEEE P802.3 (IEEE 802.3bx) Revision to IEEE Std 802.3-2012 Initial Sponsor ballot comments

CI 77 SC 77.2.2.3 P 662 L 45 # i-88  
 Remein, Duane

Comment Type E Comment Status A

The following statement is incorrect: this variable is assigned in the GATE Processing ONU Activation state diagram (see Figure 77-14). The variable fecOffset is not mentioned in the GATE Processing ONU Activation state diagram (which is Figure 77-29) but rather the ONT Control Multiplexer state diagram (which is Figure 77-14).

SuggestedRemedy

Change to read: this variable is assigned in the ONT Control Multiplexer state diagram (see Figure 77-14).

Response Response Status C

ACCEPT IN PRINCIPLE.

See comment i-3 for resolution.

The proposed change from comment i-3 (which was accepted) is included below for the convenience of the reader.

Change "GATE Processing ONU Activation state diagram" to "ONU Control Multiplexer state diagram"

CI 77 SC 77.2.2.3 P 662 L 45 # i-3  
 Hajduczenia, Marek Bright House Network

Comment Type T Comment Status A

"In the ONU, this variable is assigned in the GATE Processing ONU Activation state diagram (see Figure 77-14)." is incorrect. Figure 77-14 (page 671) is the ONU Control Multiplexer state diagram

SuggestedRemedy

Change "GATE Processing ONU Activation state diagram" to "ONU Control Multiplexer state diagram"

Response Response Status C

ACCEPT.

CI 77 SC 77.5.4.3 P 714 L 11 # i-4  
 Hajduczenia, Marek Bright House Network

Comment Type ER Comment Status A

Items SM3 through SM5 have incorrect cross references to figures. For example, ONU Control Parser mentioned in SM3 is pointed to Figure 77-14, and should point to Figure 77-12 instead (page 669)

SuggestedRemedy

Implement the following changes:  
 in SM3, change Figure 77-14 to Figure 77-12  
 in SM4, change Figure 77-15 to Figure 77-13  
 in SM5, change Figure 77-16 to Figure 77-14

Response Response Status C

ACCEPT.

CI 78 SC 78.2 P 39 L 42 # i-80  
 Hiertz, Guido Ericsson AB

Comment Type E Comment Status A

The formatting of the heading of table 78-2 is wrong. Second "s" and the closing bracket ")" is in bold font.

SuggestedRemedy

Replace "s)" with regular font.

Response Response Status C

ACCEPT IN PRINCIPLE.

The table headings in IEEE documents are in bold font.  
 Change "(u" (where u is the symbol mu) to bold font in three places.

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**Cl 79**    **SC 79.3**    **P 60**    **L 19**    # **i-108**  
 Thaler, Patricia    Broadcom Corporation

**Comment Type E**    **Comment Status A**

The IEEE style manual contains:  
 "Ranges should repeat the unit (e.g., 115 V to 125 V). Dashes should never be used because they can be misconstrued as subtraction signs."

**SuggestedRemedy**

Replace dashes used to delineate ranges (e.g. 7-255) with colons in Tables 79-1, 79-2, 79-3, and 79-7.

**Response**    **Response Status C**

ACCEPT IN PRINCIPLE.

In Table 79-1, change "7-255" to "7 to 255".  
 In Table 79-2, change "2-7" to "7:2".  
 In Table 79-3, change "4-7" to "7:4".  
 In Table 79-7, change "2-7" to "7:2".

**Cl 81**    **SC 81.2.2**    **P 107**    **L 11**    # **i-6**  
 RAN, ADEE    Intel Corporation

**Comment Type E**    **Comment Status A**

Bit sequence of preamble and SFD is badly formatted. Compare to 46.2.2

**SuggestedRemedy**

Reformat similar to 46.2.2

**Response**    **Response Status C**

ACCEPT IN PRINCIPLE.

Restore the formatting to that shown in 81.2.2 of IEEE Std 802.3ba-2010.

**Cl 82**    **SC 82.2.19.2.5**    **P 154**    **L 49**    # **i-81**  
 Marris, Arthur    Cadence Design Syst

**Comment Type TR**    **Comment Status A**

FW\_TX\_WAKE state does not exist

**SuggestedRemedy**

Delete text "or FW\_TX\_WAKE"

**Response**    **Response Status C**

ACCEPT.

**Cl 82**    **SC 82.2.3.2**    **P 136**    **L 53**    # **i-110**  
 RAN, ADEE    Intel Corporation

**Comment Type E**    **Comment Status A**

Figures 82-4 and 82-5 have exchanged numbers in this revision, compared to the 2012 version. In D3.0 (and earlier drafts), PCS Transmit bit ordering figure number has changed to 82-5, although it still appears before Figure 82-4 (64B/66B block formats).

**SuggestedRemedy**

Restore the original figure numbers.

**Response**    **Response Status C**

ACCEPT.

**Cl 83**    **SC 83.3**    **P 179**    **L 8**    # **i-71**  
 RAN, ADEE    Intel Corporation

**Comment Type T**    **Comment Status A**

"local loopback" label in Figure 83-5 has a footnote c, "Optional". But 83.5.8 does not mark it as optional, and has a mandatory requirement for a PMA adjacent to some PMDs.

This footnote conflicts with the clause text. Figure footnotes are normative...

**SuggestedRemedy**

Change c to a new footnote d, with the text "Local loopback is required for PMAs adjacent to some PMDs, and optional for other PMAs. See 83.5.8."

**Response**    **Response Status C**

ACCEPT IN PRINCIPLE.

Change "local loopback c" to "local loopback d".

Add footnote d with text:

"Local loopback is required for PMAs adjacent to some PMDs, and optional for other PMAs. See 83.5.8."

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CI 83 SC 83.3 P 180 L 20 # i-72  
 RAN, ADEE Intel Corporation

Comment Type E Comment Status A

The statements starting with "The ability to support transition..." and "Transition to the low power state..." use "register" and "direction" in an inconsistent order, which reduces their legibility.

SuggestedRemedy

Change "The ability to support transition to a low power state in the ingress direction is indicated by register 1.1.9 (PMA Ingress AUI Stop Ability, PIASA) and register 1.1.8 for the egress direction (PMA Egress AUI Stop Ability, PEASA)."

To "The ability to support transition to a low power state in the ingress direction is indicated by register 1.1.9 (PMA Ingress AUI Stop Ability, PIASA). The ability to support transition to a low power state in the egress direction is indicated by register 1.1.8 (PMA Egress AUI Stop Ability, PEASA)."

Change "Transition to the low power state is enabled in the ingress direction by register 1.7.9 (PMA Ingress AUI Stop Enable, PIASE) and register 1.7.8 for the egress direction (PMA Egress AUI Stop Enable, PEASE)."

To "Transition to the low power state in the ingress direction is enabled by register 1.7.9 (PMA Ingress AUI Stop Enable, PIASE). Transition to the low power state in the egress direction is enabled by register 1.7.8 (PMA Egress AUI Stop Enable, PEASE)."

Response Response Status C

ACCEPT IN PRINCIPLE.

Change:

"The ability to support transition to a low power state in the ingress direction is indicated by register 1.1.9 (PMA Ingress AUI Stop Ability, PIASA) and register 1.1.8 for the egress direction (PMA Egress AUI Stop Ability, PEASA)." to:

"The ability to support transition to a low power state in the ingress direction is indicated by register 1.1.9 (PMA Ingress AUI Stop Ability, PIASA) and in the egress direction by register 1.1.8 (PMA Egress AUI Stop Ability, PEASA)."

Change:

"Transition to the low power state is enabled in the ingress direction by register 1.7.9 (PMA Ingress AUI Stop Enable, PIASE) and register 1.7.8 for the egress direction (PMA Egress AUI Stop Enable, PEASE)." to:

"Transition to the low power state is enabled in the ingress direction by register 1.7.9 (PMA Ingress AUI Stop Enable, PIASE) and in the egress direction by register 1.7.8 (PMA Egress AUI Stop Enable, PEASE)."

CI 83 SC 83.5.4 P 185 L 22 # i-70  
 RAN, ADEE Intel Corporation

Comment Type T Comment Status R

This subclause refers to the "cumulative delay contributed by up to four PMA stages in a PHY". But other places that refer to it, Table 80-5 and the PICS in 83.7.3, use the same numeric values without mentioning multiple PMA stages.

I assume the text here is the original intent, so other places should be aligned to it.

SuggestedRemedy

In Table 80-5, rows "40GBASE-R PMA" and "100GBASE-R PMA", prepend to the Notes: "Cumulative value for up to four PMA instances at one end of the link".

In 83.7.3, items DELAY40 and DELAY100, append to Feature: ", cumulative value for up to four PMA instances".

Response Response Status C

REJECT.

To make the exact meaning of the values for the PMA delays clear the notes would need to contain more than the proposed text. The relevant sentence in 83.5.4 is:

"The maximum cumulative delay contributed by up to four PMA stages in a PHY (sum of transmit and receive delays at one end of the link)...". This information is already pointed to by "See 83.5.4" in Table 80-5 and the subclause reference in the DELAY40 and DELAY100 PICS items.

CI 83E SC 83E.3.3.2.1 P 633 L 43 # i-92  
 Dawe, Piers J G Mellanox Technologie

Comment Type E Comment Status A

This annex uses "stress signal" 4 times, "stressed signal" 4 times, and "test signal" 3 times. We should use the same term each time. Another option would be "compliance signal".

SuggestedRemedy

Change "stress signal" to "test signal" 4 times, and "stressed signal" to "test signal" 4 times, in 83E.

Response Response Status C

ACCEPT IN PRINCIPLE.

In Annex 83E, change "stress signal" to "stressed signal" 4 times, and "test signal" to "stressed signal" 4 times.

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CI **83E** SC **83E.3.3.2.1** P **633** L **48** # **i-93**  
 Dawe, Piers J G Mellanox Technologie  
 Comment Type **E** Comment Status **A**  
 clean pattern  
 SuggestedRemedy  
 clean signal. Also in 83E.3.4.1.1.  
 Response Response Status **C**  
 ACCEPT IN PRINCIPLE.  
 In 83E.3.3.2.1 and 83E.3.4.1.1 change:  
 "clean pattern" to "clean signal"

CI **83E** SC **83E.3.3.2.1** P **633** L **53** # **i-94**  
 Dawe, Piers J G Mellanox Technologie  
 Comment Type **E** Comment Status **A**  
 The data rate should be approximately 1/10th of the stressed pattern data rate (2.578 GBd).  
 SuggestedRemedy  
 The signaling rate of the jitter PRBS should be approximately 1/10th of the test signal's signaling rate (i.e., approximately 2.578 GBd).  
 And again in 83E.3.4.1.1.  
 Response Response Status **C**  
 ACCEPT IN PRINCIPLE.  
 In 83E.3.3.2.1 and 83E.3.4.1.1 change:  
 "The data rate should be approximately 1/10th of the stressed pattern data rate (2.578 GBd)." to:  
 "The PRBS signaling rate should be approximately 1/10 of the stressed signal's signaling rate (i.e., approximately 2.578 GBd)."  
 [Editor's note: "1/10th" was changed to "1/10" in both places during the publication of IEEE Std 802.3bm-2015]  
 See also comment i-92  
 Comment i-92 makes another change to the same text. The response to comment i-92 is copied below for the convenience of the reader.  
 In Annex 83E, change "stress signal" to "stressed signal" 4 times, and "test signal" to "stressed signal" 4 times.

CI **83E** SC **83E.3.4.1.1** P **637** L **36** # **i-95**  
 Dawe, Piers J G Mellanox Technologie  
 Comment Type **E** Comment Status **A**  
 such that from the output of the pattern generator to TP1a comprises the mated HCB/MCB pair...  
 SuggestedRemedy  
 such that the connection from the output of the pattern generator to TP1a comprises the mated HCB/MCB pair...  
 Response Response Status **C**  
 ACCEPT IN PRINCIPLE.  
 In 83E.3.4.1.1 change:  
 "such that from the output of the pattern" to:  
 "such that the connection from the output of the pattern"

CI **83E** SC **83E.5.4.2** P **642** L **24** # **i-82**  
 Dudek, Michael QLogic Corporation  
 Comment Type **T** Comment Status **A**  
 Some of the references for the module output are incorrectly pointing to the host output sections in Annex 83E.  
 SuggestedRemedy  
 Change the following references for the module output. TM9, TM10 and TM11 to 83E.3.2.1  
 Response Response Status **C**  
 ACCEPT.

CI **83E** SC **83E.5.4.2** P **642** L **45** # **i-83**  
 Dudek, Michael QLogic Corporation  
 Comment Type **T** Comment Status **A**  
 The transition time is incorrect. It should be 12ps as specified in table 83E-3  
 SuggestedRemedy  
 Change the value of TM8 to "Greater or equal to 12ps"  
 Response Response Status **C**  
 ACCEPT IN PRINCIPLE.  
 In 83E.5.4.2, TM8 change "10 ps" to "12 ps"



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CI 85 SC 85.7.2 P 222 L 17 # i-9  
 RAN, ADEE Intel Corporation

Comment Type T Comment Status A

Text refers to "preset state specified in 85.8.3.3.1" but there is no specification of preset there (only initialize).

Preset is defined in 72.6.10.2.3.1 and referred to in 85.8.3.3 (item 1, page 228 line 6) in the context of measurement procedure - but the response to PRESET request is not defined anywhere in clause 85.

Similar issues in clause 92 (92.7.2 refers to 92.8.3.5, which does not fully define the preset state - only initialize is defined in 92.8.3.5.3) and in clause 93 (93.7.2 refers to 93.8.1.5, only initialize defined in 93.8.1.5.3).

SuggestedRemedy

Either of the following:

1. Add a new subclause defining preset after 85.8.3.3.1 (using 94.3.10.6.1 as a model) and refer to it instead.
2. Add content to 85.8.3.3.1 that describes response to PRESET request, and change its title accordingly.

Apply the chosen remedy in clauses 92 and 93 too.

Response Response Status C

ACCEPT IN PRINCIPLE.

In 85.7.2 change: "the preset state specified in 85.8.3.3.1" to: "the preset state specified in 72.6.10.2.3.1"

In 85.8.3.3.1, change "2.57[+/-]10%" to "2.57[+/-]10%" (remove superfluous "-").

In 92.7.2 change: "with the transmit equalizer coefficients set to the preset values (see 92.7.12 and 92.8.3.5)" to "with the transmit equalizer coefficients set to the preset values (see 72.6.10.2.3.1)"

In 93.7.2 change: "with the transmit equalizer coefficients set to the preset values (see 93.7.12 and 93.8.1.5)" to: "with the transmit equalizer coefficients set to the preset values (see 72.6.10.2.3.1)"

CI 91 SC 91.5.4.2.1 P 389 L 28 # i-10  
 RAN, ADEE Intel Corporation

Comment Type T Comment Status R

current\_pcs1 and first\_pcs1 definitions were changed from using "FEC lane" to "lane of the PMA service interface", apparently as a result of comment #66 on D2.0.

This change was not requested in the comment and does not seem to be justified; "FEC lane" is used throughout clause 91 and the old definitions are just as valid (comment #66 only refers to amps\_lock).

SuggestedRemedy

Change the definitions of current\_pcs1 and first\_pcs1 back to the text in D2.0 (and in the original 802.3bj).

Response Response Status C

REJECT.

The changes made to 91.5.4.2.1 were not made in response to comment #66 on D2.0, but in response to comment #67 on D2.0 which is specific to the "first\_pcs1" and "current\_pcs1" definitions.

Comment #67 was:

"The AM lock state machines operate on a PMA service lane not a FEC lane. Once locked it's assigned a FEC lane number based on the data stream being received." and proposed specific changes to the two definitions. (there was also a typographical error corrected in the current\_pcs1 definition.)

CI 91 SC 91.6 P 397 L 43 # i-11  
 RAN, ADEE Intel Corporation

Comment Type T Comment Status R

Table 91-4, row 1 refers to the variable "align\_status", which is not defined in the RS-FEC sublayer. This should be "rx\_align\_status". (align\_status is a PCS variable that reflects the initial lane alignment and does not change during LPI QUIET periods; the RS-FEC does not need such a variable).

SuggestedRemedy

Change "align\_status" to "rx\_align\_status".

Response Response Status C

REJECT.

The variable "align\_status" is described in 91.6.12:  
 "This variable is assigned the value of rx\_align\_status as defined by the PCS deskew state diagram shown in Figure 82-14 (see 91.5.2.2). It is mapped to the bit defined in 45.2.1.102 (1.201.15)."

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CI 92 SC 92.1 P 405 L 49 # i-12  
 RAN, ADEE Intel Corporation

Comment Type E Comment Status A  
 "Figure 93-1 shows the relationship of the 100GBASE-CR4 PMD sublayers..."

This text seems to be inherited from clause 85 which had two PMDs (CR4 and CR10). But in this clause there is only one PMD (100GBASE-CR4). Likewise in 93.1. (KR4)

SuggestedRemedy  
 Change "sublayers" to "sublayer" here and in 93.1 (page 454 line 43).

Response Response Status C  
 ACCEPT.

CI 92 SC 92.11.1 P 434 L 34 # i-74  
 Lusted, Kent Intel Corporation

Comment Type E Comment Status R  
 The term "TP2 or TP3 Test Fixture" becomes ambiguous and incorrect with the P802.3by Draft 1.0 addition of the SFP28 test fixture.

P802.3by Draft 1.0 uses "SFP28 Host test fixture" to distinguish between that fixture and the one used with 100GBASE-CR4. The confusion is compounded by P802.3by supporting the QSFP28 MDI connector in addition to the SFP28 MDI connector.

It becomes challenging in P802.3by to reference the different host test fixtures by referring to the "TP2 or TP3 fixture" and the "SFP28 fixture" when the SFP28 fixture is also a TP2 or TP3 fixture.

SuggestedRemedy  
 Consider changing title from "TP2 or TP3 test fixture" to "QSFP28 and CFP4 Host test fixture".  
 Also update the necessary references within CI 92 text and figures. (Fig 92-15, Fig 92-18) also impacts 83E.4.1 first paragraph.

Response Response Status C  
 REJECT.

Test fixture names are not unique within the 802.3 standard. For instance, there are two different "cable assembly test fixture" types (one in Clause 85 and the other in Clause 92). The way to be sure that the correct fixture is identified is by referring to "the test fixture specified in 92.11.1" (as P802.3by D1.0 already does) rather than relying on the name to be unique.

CI 92 SC 92.11.1.2 P 435 L 42 # i-13  
 RAN, ADEE Intel Corporation

Comment Type T Comment Status A  
 In Figure 92-16, the y axis label does not match the figure title and content.

SuggestedRemedy  
 Change "Insertion loss" to "Return loss" in y axis label.

Response Response Status C  
 ACCEPT IN PRINCIPLE.

Change the Y axis label for Figure 92-16 from "Return loss (dB)" to "Insertion loss (dB)"

CI 92 SC 92.14.4.2 P 450 L 14 # i-14  
 RAN, ADEE Intel Corporation

Comment Type G Comment Status A  
 MF10 seems to be a duplicate of MF9

SuggestedRemedy  
 Delete MF10 row

Response Response Status C  
 ACCEPT.

CI 93 SC 93.11.4.5 P 482 L 25 # i-16  
 RAN, ADEE Intel Corporation

Comment Type E Comment Status A  
 Typo in ES1 "Feature".

SuggestedRemedy  
 Change "Generate" to "General".

Response Response Status C  
 ACCEPT.

IEEE P802.3 (IEEE 802.3bx) Revision to IEEE Std 802.3-2012 Initial Sponsor ballot comments

Cl 93 SC 93.8.2.4 P 471 L 16 # i-15  
 RAN, ADEE Intel Corporation

Comment Type T Comment Status A  
 Wrong variable name: FEC\_symbol\_error\_i should be FEC\_symbol\_error\_counter\_i (see 91.6.11). Also in 94.3.13.4.2 and 93C.2.

SuggestedRemedy  
 Change all instances of FEC\_symbol\_error\_i to FEC\_symbol\_error\_counter\_i

Response Response Status C  
 ACCEPT IN PRINCIPLE.

In 93.8.2.4, 94.3.13.4.2, and 93C.2 change: "FEC\_symbol\_error\_i" to: "FEC\_symbol\_error\_counter\_i"

Cl 93A SC 93A.1 P 683 L 9 # i-27  
 RAN, ADEE Intel Corporation

Comment Type T Comment Status A  
 In Table 93A-2, Physical Layer specifications that employ COM, 100GBASE-CR4 (Clause 92) is missing.

SuggestedRemedy  
 Add a Row in this table for 100GBASE-CR4 (Clause 92), using parameter values in Table 93-8.

Response Response Status C  
 ACCEPT.

Cl 94 SC 94.3.12.6.1 P 522 L 23 # i-109  
 Healey, Adam Avago Technologies

Comment Type T Comment Status A  
 The transmitter jitter measurement filter was defined by a -3 dB gain at 1.6 MHz point and a +3 dB peak 6 MHz. The response to comment i-199 received during the initial Sponsor ballot of IEEE P802.3bj/D3.0 changed the definition to be in the form of an equation. The accepted response contained an error which is also appears in this draft.

SuggestedRemedy  
 Change Equation 94-16 to be  $G(f) = f / (f - j*fn*exp(-j*2*pi*f*T))$ . The change is to the sign of the argument of the exponential function.

Response Response Status C  
 ACCEPT.

Cl 94 SC 94.6 P 532 L 1 # i-53  
 Anslow, Peter Ciena Corporation

Comment Type E Comment Status A  
 In the title of 94.6, the text after "Protocol implementation conformance statement (PICS) proforma for Clause 94, " is:  
 "Physical Medium Attachment (PMA) and Physical Medium Dependent (PMD) sublayer and baseband medium, type 100GBASE-KP4"  
 but the title of Clause 94 is:  
 "Physical Medium Attachment (PMA) sublayer, Physical Medium Dependent (PMD) sublayer, and baseband medium, type 100GBASE-KP4"  
 There is a similar issue with the text in 94.6.1 and in the table in 94.6.2.2.

SuggestedRemedy  
 Use the exact wording of the Clause 94 title in the title of 94.6, the text in 94.6.1, and in the table in 94.6.2.2

Response Response Status C  
 ACCEPT.

Cl 95 SC 95.8.8 P 555 L 20 # i-96  
 Dawe, Piers J G Mellanox Technologie

Comment Type E Comment Status R  
 \*\*\* Comment submitted with the file 85554300003-802.3bxD3.0\_95.8.8stressedReceiverSensitivityEditorials.pdf attached \*\*\*

File supporting another comment.

SuggestedRemedy  
 Implement deletions and insertions as in attachment

Response Response Status C  
 REJECT.

See response to comment i-91.

The rationale for this comment is provided in i-91 and the purpose of this comment is to attach a file that illustrates the proposed changes. The response to comment i-91 is included below for the convenience of the reader.

The terminology used within Clause 95 is self consistent and unambiguous. Making the changes proposed by the commenter will not improve the clarity of the draft. The file attached to this comment can be found at:  
[http://www.ieee802.org/3/maint/public/dawe\\_1\\_0515.pdf](http://www.ieee802.org/3/maint/public/dawe_1_0515.pdf)

IEEE P802.3 (IEEE 802.3bx) Revision to IEEE Std 802.3-2012 Initial Sponsor ballot comments

Cl 95 SC 95.8.8 P 555 L 20 # i-91  
Dawe, Piers J G Mellanox Technologie

Comment Type E Comment Status R

Use more consistent, possibly less wordy terminology for SRS test and signal in Clause 95. "conformance test" is somewhat redundant; in a standard, a test is a conformance test unless stated otherwise.

*SuggestedRemedy*

In Clause 95, use:  
Stressed receiver conformance test  
(though a shorter phrase would be nice), and  
test signal  
or  
stressed receiver test signal.  
Some or all of the proposed "stressed receiver test signal" could be just "test signal".  
See pdf for details.

Response Response Status C

REJECT.

The terminology used within Clause 95 is self consistent and unambiguous. Making the changes proposed by the commenter will not improve the clarity of the draft.  
The file attached to this comment can be found at:  
[http://www.ieee802.org/3/maint/public/dawe\\_1\\_0515.pdf](http://www.ieee802.org/3/maint/public/dawe_1_0515.pdf)

See also comment i-96.

Comment i-96 was submitted for the purpose of attaching a file that illustrates the proposed changes. This is the file that is cited above.

Cl 95 SC 95.8.8 P 555 L 22 # i-90  
Dawe, Piers J G Mellanox Technologie

Comment Type E Comment Status R

This paragraph is pretty much repeated in 95.8.8.1, top of page 556, where it fits better.  
We can remove the duplication.

*SuggestedRemedy*

In 95.8.8.1, change "receiver under test" to "PMD under test".  
In 95.8.8.1, change the first instance of "when stressed: see 95.8.1.1." to "when stressed and at the specified receive OMA: see 95.8.1.1."  
Delete this paragraph here in 95.8.8.

Response Response Status C

REJECT.

While it is true that most of the information contained in this paragraph is repeated later in the clause, it is not incorrect and provides a useful summary.